

In the Claims

Please replace all prior versions of claims in the application with the following claims:

1. (Currently amended) Rate-Finger sensing apparatus comprising:
two or more object-finger detectors spaced apart along ~~a~~ an expected direction of movement of ~~an object~~ a finger, each of said object-finger detectors including at least one rate drive plate and at least one rate-pickup plate, wherein said finger detectors are dimensioned and spaced to sense a bulk of a finger rather than fingerprint features and wherein an end of ~~an object~~ a finger passing over each of said object-finger detectors produces a change in capacitance between respective ~~rate~~-drive plates and ~~rate~~-pickup plates.
2. (Currently amended) Rate-Finger sensing apparatus as defined in claim 1, wherein the ~~rate~~-drive plate and the ~~rate~~-pickup plate of each of said object-finger detectors are disposed generally laterally with respect to the expected direction of movement of the ~~object~~ finger.
3. (Currently amended) Rate-Finger sensing apparatus as defined in claim 1, wherein the ~~rate~~-pickup plates of said ~~sets of rate sensing plates~~ finger detectors are commonly connected.
4. (Currently amended) Rate-Finger sensing apparatus as defined in claim 1, wherein each of said object-finger detectors includes first and second ~~rate~~-pickup plates disposed on opposite sides of the ~~rate~~-drive plate to form a differential ~~rate~~-sensor.
5. (Currently amended) Rate-Finger sensing apparatus as defined in claim 4, wherein the ~~rate~~-drive plates of said object-finger detectors are commonly connected.
6. (Cancelled)
7. (Currently amended) Rate-Finger sensing apparatus as defined in claim ~~6~~ 1, wherein the ~~rate~~-drive plates and the ~~rate~~-pickup plates of said object-finger detectors are curved to substantially match the curve of a typical finger end.

8. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim ~~6~~ 1, further comprising a substrate, wherein said ~~rate~~-drive plates and said ~~rate~~-pickup plates comprise conductive traces on said substrate.
9. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim ~~6~~ 1, further comprising a flexible substrate, wherein said ~~rate~~-drive plates and said ~~rate~~-pickup plates comprise conductive traces on said flexible substrate.
10. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 8, wherein said substrate comprises a printed circuit board.
11. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 1, further comprising:
 - an excitation circuit for energizing the ~~rate~~-drive plates of said ~~object-finger~~ detectors with drive signals, and
 - a detection circuit for detecting the drive signals capacitively coupled from the ~~rate~~-drive plate to the ~~rate~~-pickup plate of each of said ~~object-finger~~ detectors to provide ~~rate-sensor~~ signals.
12. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 11, wherein said drive signals comprise signal bursts.
13. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 12, wherein said signal bursts comprise bursts of a clock signal.
14. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 12, wherein said detection circuit comprises a synchronous detector.
15. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 11, further comprising a processing circuit for determining a time delay between said ~~rate-sensor~~ signals

from said ~~object-finger~~ detectors, wherein said time delay between said ~~rate-sensor~~ signals is representative of a speed of the ~~object-finger~~.

16. (Currently amended) ~~Rate-Finger~~ sensing apparatus as defined in claim 1, wherein the ~~rate~~-drive plate and the ~~rate~~-pickup plate of each of said ~~object-finger~~ detectors are substantially coplanar.

17. (New) Finger sensing apparatus as defined in claim 11, wherein the drive signals are applied to said finger detectors sequentially.

18. (New) A fingerprint sensing system comprising:
an image sensor comprising an array of sensors for sensing ridge peaks and ridge valleys of a fingerprint; and

a finger sensor comprising two or more finger detectors spaced apart along an expected direction of movement of a finger, each of said finger detectors including at least one drive plate and at least one pickup plate, wherein said finger detectors are dimensioned and spaced to sense a bulk of a finger rather than fingerprint features and wherein an end of a finger passing over each of said finger detectors produces a change in capacitance between respective drive plates and pickup plates.

19. (New) A fingerprint sensing system as defined in claim 18, wherein the image sensor and the finger sensor are fabricated as conductive traces on a substrate.

20. (New) A method for sensing a finger comprising sensing a bulk of the finger, rather than fingerprint features, with finger detectors spaced apart along an expected direction of movement of a finger.

21. (New) A method as defined in claim 20, wherein sensing a bulk of the finger comprises sensing an end of the finger passing over each of said finger detectors.

22. (New) Finger sensing apparatus comprising:
two or more capacitive finger detectors spaced apart along an expected direction of movement of a finger, wherein said finger detectors are dimensioned and spaced to sense a bulk of the finger rather than fingerprint features.
23. (New) Finger sensing apparatus as defined in claim 22, wherein said capacitive finger sensors are fabricated as conductive traces on a substrate.
24. (New) Finger sensing apparatus as defined in claim 22, wherein each of said finger detectors includes at least one drive plate and at least one pickup plate.